

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In particular, the abstract contains the language "said" in the first sentence.

Drawings

2. The drawings are objected to because there is no connection shown between parts in Figures 1 and 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claim 1, the phrase "such as" (line 3) renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

6. Claim 1 recites the limitation "the exhalation path" in line 1 and "the exhaled air" in line 4. There is insufficient antecedent basis for these limitations in the claim.

7. Claim 6 recites the limitation "the interior" in line 2 and "the space" in line 3. There is insufficient antecedent basis for these limitations in the claim.

8. Claim 7 recites the limitation "said housing" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 8 recites the limitation "the interior surface" in line 2 and "the area" in line 2. There is insufficient antecedent basis for these limitations in the claim.

10. Claim 9 recites the limitation "the downstream valve" in line 2. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 10 recites the limitation "the downstream valve" in line 3. There is insufficient antecedent basis for this limitation in the claim.

12. Claims 2-5 are rejected solely based on their dependency to rejected claim 1.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Baker (GB 2,203,050 A).

15. Baker discloses an exhalation valve assembly 19 (Fig. 1) comprising first 20 (upstream exhalatory valve) and second 21 (downstream exhalatory valve) valves (which are both one-way flap valves) spaced apart in the exhalation path a sufficient distance that they do not interfere with each other (see Fig. 1) and such as to define between them a dead space 22 operable to retain a portion of the exhaled air (pg. 10, ln. 17 - 22).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claims 5 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker.

18. As to claim 5, Baker discloses the claimed invention including that the valves are situated in a generally cylindrical housing 19 attached to a respirator (see Fig.1, Fig. 3) but lacks detailed description as to the limitation that the housing has means whereby it may be releasably attached to a respirator. However, making the valve housing releasably attachable to the respirator is a design consideration and it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the valve of Baker to be releasably attached to the respirator in order to clean or replace the valve assembly since it appears that Baker's respirator would perform equally well with a releasably attachable exhalation valve housing.

19. As to claims 6, 8, and 9, Baker discloses that the valves 20/21 are mounted across the interior of the cylindrical housing 19 (see Fig. 1), that the interior surface between the two valves 20/21 is smoothly contoured (see Fig. 1), and that the downstream valve 21 has a part-conical shape (see Fig. 1).

20. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker, in view of Michel et al. (US Patent No. 4,850,346).

21. Baker discloses the claimed invention except that housing is fabricated from separate cylindrical sections attached together and a baffle means situated downstream

of the downstream valve. However, Michel teaches a housing for an exhalation valve of a respirator made of two separate cylindrical sections 15/113 attached together and a baffle means 115 downstream of a valve 105 (Fig. 14, col. 9, ln. 4-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the exhalation valve of Baker to include a housing with two separate sections and a baffle means as taught by Michel in order to gain access to the interior of the valve for cleaning or replacing parts and to create additional dead space to prevent contaminants from entering the respirator, respectively (col. 9, ln. 13-16).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ulmann (US Patent No. 3,575,206), Wise (US Patent No. 4,648,394), and Katz (US Patent No. 4,838,262).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VALERIE SKORUPA whose telephone number is (571)270-1479. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on (571)272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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